Chapter 2
The Warring States

Develop alternatives to US Treasuries as the dominant reserve asset, thereby accelerating the inevitable transition to a multipolar system. In particular, we recommend the issuance of mutually guaranteed European bonds. Also necessary (though in the more distant future) are opening of the Chinese capital account, convertibility of the yuan, and development of a yuan bond market.

—Farhi, Gourinchas and Rey[1]

People usually mention the international monetary system after the collapse of the Bretton Woods system by the term of "the Era of the Jamaica Agreement" and describe its major feature as the floating exchange rate mechanism. Though not incorrect, those terms fail to capture the reality properly when trying to trace the evolution of the international monetary system by following the transition of the exchange rate system only. In our view, the situation and transformation of the reserve currencies that reflects the essential properties of the monetary system should be regarded as the major clue of the trends of the system; in this case, the main feature of the Era of the Jamaica Agreement is the diversification of currency reserve.

Any type of international monetary system comprises of three key elements: the choice of the reserve currency (either one or multitude kind); the exchange rate arrangements among the reserve currencies and between the reserve currency and the non-reserve currencies (fixed, pegged, floating, or other); the adjustment mechanism worked out by countries to deal with the international imbalances (automatic adjustment, or adjustment through specific regulations and channels). The structure of the monetary system was built on the choice of the reserve currency and the exchange rate arrangement and adjustment for international balance of payment are subject to the different reserve currencies. In this sense, the reserve currency is the crux of the international monetary system and its situation and transformation is more closely tied to the nature of the monetary system.

[1]Translator's note: Farhi (2011).

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Accordingly, if we approach the evolution of the international monetary system from the perspective of the composite of the international reserve currency and its transformation, we will find that the reform of the monetary system that moving towards the diversification of the reserve currency dated back to as early as the first dollar crisis. This process, going through the breakdown of the Bretton Woods system, the global economic crisis in the 1980s, the Asia financial crisis in the 1990s and the emergence of the Euro at the end of the 1990s, and till the turbulent global financial crisis of today, has become an irreversible trend. In other words, the proposal of diversifying the reserve currency, deemed as a major part of the international monetary system reform after the current financial crisis, was actually in existence as early as the 1970s, and it has been acknowledged widely as a de facto consensus within the international community.

Today, the international community has entered the "period of the warring states" in the real sense. When the multipolar reserve currency system has become the reality, and it will be further consolidated in the foreseeable future, the reform of the international system will undoubtedly be shifted towards searching for a coordinating mechanism within the multi-currency reserve system and the creation of new international governance.

2.1 Diversification of the Reserve: Creation of SDR

As is mentioned before, one of the fundamental contradictions of the dollar dominance of international reserve is that the dollar could not be provided to the international community steadily without hurting its status (the dollar has to be depreciated at home and abroad). Being aware of the contradiction, the international community had have in an earlier time made efforts to search for a more reasonable and efficient monetary system, which were marked by the creation of the Special Drawing Right and the establishment of the Euro Zone.

People started to realize that the volume and growth of the reserve asset should play an active role in reflecting the need of the growth of global trade and economy, rather than being a passive dependent of the cumulative surplus from the international balance. To put it in another way, the international community should proactively and predicatively increase the international reserve with elasticity in response to the needs brought about by the increase in the global economy, international trade and investment. The IMF is expected to facilitate this transition and become the major provider of international fluidity that will be provided in the form of conditional financial assistance or by creating new fluidity. After as long as five-year's repeated consultation, the IMF officially declared its plan for introduction SDR, and completed the first distribution in 1970.

With its well-thought design produced by the great efforts of a group of the world's top experts, and despite of the promotional efforts by the IMF, the SDR, designed to be the world reserve asset that will replace gold and the dollar (as well as other sovereign or regional currency), has been far from fulfilling its original goal when it was contrived. Moreover, with the deepening of globalization, the goal appears to become far more distant as the world advances towards the other direction.

This is because the SDR is lacking in some essential elements as international reserve currency. Today, any currency in circulation is credit currency. In reality, any credit currency, in order to be widely accepted, has to meet both the necessary and sufficient conditions, namely, it has to be backed by the credit of a state, and therefore is conferred legal authority to enforce its circulation, and it requires the currency authorities that are specially established to deal with the affairs related to circulation and maintain the stability of its value by effective macro-regulation. If we take a look at the SDR, there is no doubt that it neither possesses the credit nor has a pricing mechanism. Although the SDR's value is determined by a basket of four sovereign currencies, it is still subject to the economic and financial situations of the "central" states, whose macro regulatory and control policies might exert unfavorable impact on other countries out of their own national interests. In this sense, the SDR standard is no other than the dollar standard with a few adjustments.

This deficiency was clearly manifested in the distribution mechanism of the SDR. Due to the lack of the elements to become credit currency, it can only be distributed within the framework of common drawing right. The draft on the distribution of the 250 billion SDR in US dollar promulgated by the IMF on July, 2009 is another manifestation of the fact that the SDR can only comply with the basic mechanism of the common drawing right. The paradoxical issue reveals the fact that if SDR is the extension or expansion of the common drawing right, then it contravenes the original purpose of creating the SDR; but if the SDR is distributed on the basis or other mechanism, i.e., the demands of the countries for reserves, then it would obviously be irrational terms of economy, and therefore is not feasible.

In essence, to give the full play to the SDR, some supranational central bank has to be established, preceded by a world that was "harmonized into one unity". No doubt there is still a long way to go and persistent efforts are needed to meet this condition.

2.2 Diversification of Reserve Currency: The Emergence of the Euro

European nations had for a long time taken the lead in human civilization since the Industrial Revolution. However, the scourges the two world wars in the first half of the twentieth century had ravaged the once rich and prosperous continent. The old capitalist powers like the UK, France, Germany and Italy had to step down into the "Second World," and not without distress they witnessed the emerging of the United States, a young nation, in the center stage with triumph and vitality.

Yet, with the end of the WWII, the Europeans who were good at drawing lessons from the past had risen from the grievances and started to take active measures to carry forward the mission of unification—a dream pursued by several generations of the Europeans. This time however, the unifying attempts were not in the form of military conquests like those achieved by Charlemagne and Napoleon but instead, were carried out over the past half century through the making of a series of landmark multilateral treaties, a process coming to fruition with the creation of the Euro.

Unlike what happened in the invention of the SDR, efforts to unify European currencies had been regional all along and focused on creating a single regional currency to protect the interests of nations of the region. Back in the 1950s, the process of European unification began after political consensus had been reached on broad basis. In 1950, the European Payment Union was established. In March, 1957, six western European nations signed the Treaty establishing the European Economic Community (EC) and the Treaty establishing the European Atomic Energy Community (commonly referred to as the Treaties of Rome), which gave birth to the European Community. At the end of the 1960s, the EC, after establishing the tariff union and adopting the common agricultural policies, took steps to promote the liberalization of labor and movement of capital. This is at this moment when the issue of unifying the currency made to the agenda. In 1972, the six EC member states initiated a series of arrangements of currencies exchange rates including the Snake Floating system to deal with the drastic fluctuations of the exchanges rates of the European currencies against the US dollar. In 1979, the EC nations established the "European Monetary System" (EMS), and eventually achieved the unification of the market in 1993 with the creating of the "European Monetary Unit" (EU). In January, 1999, the Euro was born. The significance of the creation of the Euro may be put in various ways; as for the author of the book, no comment is more insightful than one made by Jacques Chirac, the former French president: "Adoption of the Europe is a great transformation achieved without guns and barrels, and it has freed us from the manipulation of the others".

Admittedly, despite of the setbacks, hardships in the past, the unfulfilled goals have yet to accomplish, and no matter what difficulties and obstacles will appear in the future, the unification of Europe and emergence of the Euro will be recognized as mankind's great and so far successful trial to achieve regional unification through peaceful and multilateral means. After all, one cannot fail to see that one of the paramount initial goals set by the architects of the project has been accomplished: wars among European nations have become "not only unimaginable, but also impossible".[2]

Unlike the SDR, the Euro is an international currency that can pose real challenge to the US dollar.

First of all, the credit of the Euro is built on the truly enormous strength of the real economy in the region of the European Union. By 2012, the twenty eight

[2]Remarks made by Robert Shumann, the French Foreign Minister (1948–1953).

member states (EU 28) remains the world's No.1 economy with a total population of 510 million and GDP of $16.6 trillion. At the same time, the EU28 remains the world's top destination for import and export of goods and services excluding inner-regional trade, and it has maintained trade surplus for a long time. It is especially worth emphasizing that although Europe is still undergoing debt crisis, according to statistics from the Global Economic Outlook by the IMF, the structural deficit rate and total government debt rate are 2.3 and 93.0%, better than those of the US (6.3 and 102.7%) and Japan (9.2 and 238.0%) during the same period. Apparently, as an economic entity, the EU is doing much better than the US in terms of external balance and fiscal situation. Besides, Europe is also the world's leader in areas such as space industry, communications, environmental protection, machinery manufacturing, on par with the United States.

Secondly, from the very beginning, the European Central Bank (ECB) has maintained independence and adopted unique concepts relating to monetary operating policies, a practice that makes the EU distinctively different from the United States. The ECB, thanks to its close ties with the German Federal Bank, ranks the top in the world when it comes to maintaining independence in human resources and the fiscal and policy matters. There is no denying that due to the unique mechanism of organizing and the complex political, economic and social ramifications, the ECB's fiscal foundation is comparatively weak, rendering it incapable of dealing with external asymmetrical shocks. Nevertheless, it is this incapacity itself that has, to the greatest extent, prevented the member states from "being tempted" to utilize the ECB to finance the government's fiscal deficits, therefore reducing the "moral hazard" in operation of the monetary policies to the minimum. According to Article 105 of the Treaty on European Union (or the Maastricht Treaty), "The primary objective of the European System of Central Banks ESCB shall be to maintain price stability," and only in compliance with this objective shall the ECB support the general economic goals of the Community in aspects like creating jobs and promoting economic growth. The stipulation has restrained the Bank from making outstanding performances in dealing with crisis, like the case in the current financial crisis. On the other hand, however, the primacy of price stability over everything else is what makes the euro remain immensely popular among other countries even when the euro zone was impacted severely by sovereign debt crisis in many EU countries. To put it in another way, it may be difficult for the euro, a regional currency, and the ECB with its operation mechanism to fully play the role of regulating and supervising the regional economy, but since the euro, as an international currency, can better meet the demand for independence, stability, responsibility and transparency than other currencies, it came out of the crisis as strong as it used to be. For example, as was estimated by the Bank for International Settlements (BIS), proportion of the euro in the global reserve currencies rose from 26.4 to 26.5% between 2008 and 2010, whereas during the same period, that of the US dollar decreased from 64.1 to 62.1%. The rise and fall demonstrates clearly the degrees preferences towards the two currencies.

Other than the aforementioned factors, one has to note that the European sovereign debt crisis that broke out in 2010 and gradually swept across the whole region not only has exposed a myriad of contradictions and problems resulting from the imbalanced development in politics, economy and finance among the European nations, but also prompted those countries to take further steps in policy coordination and regional cooperation. Here is an example: during the initial stage of the crisis, in May 2010, the Community established the European Financial Stability Facility (EFSF) and the European Financial Stability Mechanism, who helped to raise the funds totaling 440 billion and 60 billion Euro respectively and supplied fluidity to countries including Greece, Ireland and Portugal, making remarkable contributions to lifting them out of their fiscal difficulties. Later on, after ratifying the revision of the Treaty of Lisbon, the two contingency organizations was replaced by a standing relief mechanism—the European Stability Mechanism (ESM), with the start-up fund of 80 billion Euros and lending scale as much as 500 billion Euros. As an inter-governmental organization founded on international treaties, the primary function of the ESM is to maintain the stability of the financial system of Europe (mostly the Euro Zone) by providing fluidity and other supports. From a certain perspective, the ESM seems to evolve into the "IMF" of Europe.

The above analysis shows that during more than one decade since its emergence, the Euro has demonstrated tremendous vitality as it has been widely used in many areas such as international foreign currency reserve, trade, investment, and is becoming the arch rival of the dollar thanks to the economic and political strength and regional integration of Europe. However, despite of the vigor it has shown so far, it is now still unable to shake the hegemon of the dollar for quite a long time in future, due to the disparities in the comprehensive national strength and potentials for economic growth, Europe's internal unbalanced development, low-level integration and other factors like the "inertia" of the international currency when it is use.

2.3 Diversification of Reserve Currency: The Demand of Asia

The evolution of the international monetary system tells us that the alternation of the international reserve has always been preceded by the waning and waxing of the economic strength of the issuing country. The pound sterling lost its hegemonic status like falling flowers because the UK has been overtaken by the US as early as 1872. The Euro has become the international currency second to the US dollar due to the fact that the aggregate economic volume of the Euro Zone ranked the top by the end of the twentieth century. Given this tendency, when the aggregate economic volume of Asia surpasses that of the Europe and the US as the top one, it is just natural for Asia to seek the appropriate status in the international monetary system.

Between 2004 and 2007, the proportion of the GDP of Asia to the global GDP had risen to 35%, whereas during the same period that of the US and the Euro Zone was below 50%. Nevertheless, as Table 2.1 illustrates the shares of the major

Table 2.1 The share of the major currencies in the currency zones (Unit: %)

Time (Year)	The dollar zone		The euro zone		The yen zone		The pound zone		Other	Total (1 billion US dollars)
	The US	Total	The euro zone	Total	Japan	Total	The UK	Total		
1970–1974	33.8	54.5	14.1	27.3	8.7	8.7	4.4	7.2	2.2	3675
1975–1979	29.0	50.5	15.2	30.9	10.5	11.9	4.1	5.3	1.3	7074
1980–1984	30.8	51.8	12.7	25.4	10.7	12.7	4.5	6.4	3.6	10,729
1985–1989	30.2	48.9	12.6	22.0	14.8	15.3	4.3	5.8	8.0	15,753
1990–1994	26.2	45.9	13.5	28.0	16.0	16.3	4.2	5.7	4.1	24,101
1995–1999	27.6	50.3	14.8	26.2	14.9	16.7	4.4	4.9	2.0	29,946
2000–2004	30.2	48.6	21.5	30.1	12.3	14.4	4.8	5.1	1.7	34,929
2005–2007	26.8	48.4	22.2	33.4	9.0	9.6	5.0	6.7	1.9	49,046

Note Calculated in terms of GDP (market foreign exchange rate, denominated in dollars)
Source Masahiro Kawai, International Monetary System and East Asia Monetary Cooperation, Jilin University Press, 2009

currencies in monetary zone, and it suggests that in terms of the areas covered by reserve currency, the dollar still assumed the predominant role, tailed by the Euro. The aggregate GDP of the two areas accounted for 81.8% of the global GDP by the end of 2007; in comparison, the currencies in Asia (mainly the Japanese Yen) accounted for only 9.6% of the global GDP. In this view, Asia is "marginalized" by the current international monetary system.

The severe mismatch between the ratios of GDP and the regional currency coverage, especially the lack of predominant regional currency has put the Asia currencies in the periphery, therefore making the regional economy and financial system prone to the concurrency and impact of the international economy and financial fluctuation. Looking back on economic and financial chaos experienced by Asian countries as the result of the Asian Financial Crisis in 1997 and the financial crisis this time, people will see clearly the various issues cause by the peripherization. Asian countries come to realize painfully that if such kind of peripherization remains unchanged, the regional economy and finance will inevitably be disturbed and harmed by the macro—policies of the US and European countries at the center. For this reason, for Asian countries, and East Asian countries in particular, it is a rational choice in their common interests to seek closer monetary and financial cooperation.

And the trend is moving towards a reasonable direction.

At the ASEAN Summit in 1997, reflecting on the lessons drawn from the Southeast Asian financial crisis by countries in the region, especially the ASEAN nations, Prime Minister of Malaysia, Mahatir Mohamad was the first to propose the idea of the “Zone of Asian Yuan”. During the APEC meeting in 2001 in Shanghai, Robert Mundell, known as the Father of euro, presented his views on the future evolution of the international monetary system: “The world will see the emergence of three major currency zones—the Euro Zone, the Dollar Zone and the Asia Currency Zone (the Zone of Asian Yuan)”. His remarks drew positive reactions from many East Asian countries. In early 2006, the Asian Development Bank (ADB) introduced a conceptualized currency token called “Asia Currency Unit (ACU)”. Similar to the predecessor of the euro, the “Europe Currency Unit,” it is not the real currency that can be circulated, but rather a virtual currency weighted by factors including the currency values of some Asian countries, their GDP and scale of trade, etc. It was planned that the ADB would determine its exchange rates with the dollar and euro, which will be publicized on the web to measure the fluctuation of the exchange rates and the controllability of the fluctuation; related countries can adjust the financial and monetary policies to move the monetary mechanism towards the ACU, therefore laying the foundation for the official adaptation of the Asian Yuan. However, due to political and technological controversies centering on issues like the choice of financial and the weights assigned to them, the plan has been prolonged indefinitely.

Despite of the abortion of the proposal of introducing the Asian Yuan, countries in Asia, especially in East Asia never stop taking further steps in cooperation in monetary and financial areas.

In September 1997, Japan proposed the idea of establishing the “Asian Monetary Fund” at the IMF and ABD meeting. The attempt failed due to the opposition from the US and IMF and the doubts raised by some East Asian countries, but the idea of introduction multi-layer monetary and financial cooperation in the region was put on the agenda of various countries.

In August, 1997, five ASEAN countries (Indonesia, Malaysia, the Philippines, Singapore and Thailand) initiated the ASEAN Swap Arrangement (ASA). In November, 1999, the ASEAN Plus Three Summit (ten ASEAN countries plus China, Japan and Korea) issued the Joint Statement on East Asia Cooperation at the 3rd ASEAN Plus Three Summit, promising to further strengthen dialogue, coordination and cooperation in financial, monetary and fiscal policies. In the spirit of the agreement, in May, 2000, at the ASEAN Plus Three Finance Minister’s Meeting at Chiang Mai, Thailand issued the Chiang Mai Initiative, which mapped out plans for future cooperation including facilitating exchanges of statistics and information of capital movement, setting up networks for bilateral currency swap and securities trade, with an effort to improve the market for direct foreign exchange trading of local currencies and establish a financial settlement system to further expand trade among Asian countries using local currencies. In May, 2008, the ASEAN Plus Three decided to establish the common foreign exchange reserves fund worth $ 80 billion. In February, 2009, the ASEAN Plus Three Finance Ministers special meeting issued the Action Plan to Restore Economic and Financial Stability of the

Asian Region, which increased the fund to $120 billion. The meeting also proposed to establish an independent regional supervision entity and allow countries to use part of the foreign exchange reserve for special purposes. The Action Plan became the platform for conducting monetary and financial cooperation among Asian countries at a higher level.

Asian financial cooperation is also making progress. In June, 2002, Thailand initiated the idea of “Asian Bond Market” at the first Asian Cooperation and Dialogue (ACD). In August the same year, at the Executives’ Meeting of East Asia Pacific Central Banks (EMEAP), Thailand made a further proposal to set up the Asian Bond Market Fund, which received positive response from East Asian countries and the whole region as well. In September the same year, China’s Hong Kong raised the Asian Bond Market Initiative (ABMI) at the 9th meeting of ASEAN finance ministers, which was aimed at developing the regional market for the securitization of capital and credit guarantee. The ABMI was later endorsed by the meeting of ASEAN Plus Three Finance Ministers held in August, 2003. The blueprint outlined by the ABMI for the development of Asian bond market is to be completed in three steps during the three time periods of 2003–2005, 2005–2008 and 2008 to present. According to the plan, the third step, which is in process now, should facilitate issuance of bonds and securities denominated in local currencies and creation of demands for bonds of such kind, as well as build fundamental framework for the development, monitoring and management of the bond market. The 16th meeting of ASEAN plus Three Finance Ministers and Central Bank Governors held in May, 2013 reviewed and evaluated the ABMI’s work under progress and approved the new initiative made by China on promoting the development of financing bonds for infrastructures.

Meanwhile, Asian countries also started to look for mechanisms of policy coordination and surveillance. Up to now, three mechanisms in this regard have been introduced, namely: the Manila Framework Group (November, 1997), the ASEAN Surveillance Process (October, 1998) and the ASEAN + 3 Surveillance Process (November, 1999). Besides, in April, 2011, as one of the institutional arrangements introduced by the multilateral Ching Mai Initiative, the independent ASEAN + 3 Macroeconomic Research Office was established to monitor the economic operation and risk of the financial market within the region, and assess, evaluate and maintain surveillance over the application, operation and usage of funds under the multilateral currency swap initiative. These mechanisms have made remarkable achievements. In May, 2013, the ASEAN Plus Three Meeting of Financial Ministers and Central Bank Governors reviewed and approved the initiative to upgrade the Office to become an international organization, and advised to continue enhancing its role in economic surveillance and assessment, so as to provide consistent support to the effective and multilateral cooperation under the Ching Mai Initiative.

It is true that due to the diversified economic structures and different level of economic development in Asia, the region is still not able to reach the level of currency uniformity within the region as was required by the optimum currency zone, and therefore it still has a long way to go to meet the ideal financial development level and unity. Since the movement of the fundamental elements within the region is still very much under various regulations and interferences, and due to the lack of consensus with regard to moving towards the economic and monetary integration, persistent and huge efforts have to be made before a unified Asian currency will be materialized. However, if the global real economy will still develop along the existing path under the pattern of the declining West and rising East, it is not totally unimaginable to see the emergency of a single regional currency in Asia in the end.

2.4 The Global Imbalances Under the Center-Periphery Structure

Dooley et al. (2003, 2009)[3] believed that the post WWII international monetary system can be characterized as the Bretton Woods System, which is divided into two periods by the Jamaica Agreement of 1974 and named the "Bretton Woods system I" and "Bretton Woods System II".

In their view, under the Bretton System I, the center-periphery structure existed: at the center of world economy was the US that predominated the whole system; other countries constituted the periphery. Being the "center," the US was over-privileged as it was able to provide the world with reserve currencies and convenience of settlement by creating deficit in its current account; on the other hand, it also financed the reconstruction of Europe and Japan as the international credit intermediary, backed by its highly-developed capital market. Meanwhile, as the emerging periphery region and country, Europe (Germany in particular) and Japan both turned to adopt the export-oriented development strategy. To enhance competitiveness, both tried hard to suppress the value of their currencies, and exercised strict capital regulation to prevent over speculation. The result is that the periphery countries had not only accumulated considerable amount of dollar reserve, but also absorbed tremendous US investment.

It is quite conceivable that the necessary condition for maintaining long-term stability of the "center-periphery" structure is the imbalance characterized by the state of having "deficit at the center and surplus at the periphery". As to the imbalance and its sustainability, the economists are divided by diametrically opposite views. One perception tends to believe that such imbalance is unsustainable. For example, the Director of the IMF Research Institute, Roger once remarked, "Although foreign governmental agencies are increasingly buying the American assets, but major entities that hold dollar assets are still private citizens—

[3]The readers need to be reminded that against the backdrop of the 2008 world financial crisis, political leaders including French president Sarkozy and British Prime Minister Brown made a proposal to reconstruct the international monetary system under the framework of G20. This conceptualized new system is also called the "Bretton Woods System II".

not central banks…and once private investors realize that the issue of US trade deficits are difficult to be solved, then the dollar is faced with the possibility of breaking down”.[4] However, many people hold opposite views. For example, McKinnon and Schnabl (McKinnon and Schnabl 2004) have pointed out that due to the asymmetrical structure of the dollar system, the US can unilaterally lend to the world's countries unlimitedly, and therefore the system can be maintained. His view was echoed by Dooley et al., who believe that within certain degree, since this imbalance is in the interest of both the center and periphery and may become a win-win situation, the system can remain stable for considerably long time. It is fair to say that the global universal prosperity during the periods of 1950–1970 and the 1990s to the first decade of the 21st century has confirmed the view of the latter.

In our view, the two different opinions seem to be diametrically opposite but are fundamentally the same: they do not, in general worry about the imbalance, even less do they worry about the global imbalance built on the “center country,” what they really care about is whether this system can be sustained; and their assessments about the sustainability are made on the linchpin of the universal acceptance of the dollar as a key currency around the world. Those who support the view that the system is sustainable think that the payment capability of the dollar is unlimited, whereas those who hold the opposite view believe that long-term deficit on the current account will damage the payment capability of the US and eventually lead to the collapse of the state of imbalance. And history has shown that the centrality of the US in the structure is what has granted the US the privilege to issue its currency to make up for the gap in the current account for the long term and to a great extent, which makes it possible to maintain the imbalance; nevertheless, if the US keep on abusing its privilege of currency issuance and eventually has to seriously reassess the value of the dollar, the imbalance will not be sustained any longer and will need a total crisis to bring it back to the old trajectory.

The history of the Bretton Woods illustrates the system's trajectory moving from the state of being able to maintain its sustainability to losing its sustainability. Since the time of its establishment, the economic world under the system was a imbalanced world. Its initial pattern featured the match between the trade surplus of the US and the trade deficits of the other countries, and this situation remained for quite a long time. In 1960, the US's foreign debts exceeded the gold reserve, and the imbalanced economic world structure under the Bretton Woods system moved into the situation where the trade deficit of the US has to be matched by the trade surplus of the other countries, and the situation had become increasingly severe. Even in this case, the imbalance was still sustainable until the end of the 1960s. The “Nixon Impact” of 1971 was the turning point in the real sense. In that year, the skyrocketing domestic prices within the US and the plummet of the value of the dollar led the US and other countries to come to realize that it is not worth it to maintain

[4]Speech made by Roger at a meeting sponsored by Crédit Suisse First Boston on March, 15, 2005 in Hong Kong, China.

the dollar standard. It was followed by the global financial crisis that lasted nearly one decade, which eventually led to the collapse of the Bretton Woods system.

The post Jamaica Agreement international monetary system, seen from our analytical perspective that differentiate the international monetary system based on reserve currency, can be called the "multi-reserve monetary system," as against the "Bretton Woods System II" named by Dooley et al., as the appropriateness of the term is still debatable. After the collapse of the Bretton Woods system, in terms of reserve currency, the dollar still plays a dominant role, but its status has been eroded by euro, pound, yen, and other "emerging" currencies; in terms of the arrangement of exchange rate, the fixed exchange rates that was maintained with much efforts under the Bretton Woods system has been replaced by the universal floating exchange rate; as to the mechanism of adjustment of international payments, countries pursue their own policies independently without much coordination. In this view, the post-Bretton Woods system is vastly different from its predecessor; and it is at most a transitory system before a new international monetary system takes shape. The transition, on the other hand, will last for pretty long time when the system will remain a mixture of legacies of the past and elements of the nascent system.

2.5 The Warring States

After the Jamaica Agreement was concluded, the international monetary system has seen variegated factors competing with each other. In view of international reserve currencies, the currencies of developed economies, including Deutschmark, French franc, Japanese yen, and pound sterling begin to play positive roles, prompting the diversification of the international reserve currencies (see Table 2.2). Though the diversification has begun, the predominance of the dollar has not be shaken fundamentally.

Europe has a well-developed and strong real economy and had materialized the common currency, the euro, which is competing with the dollar on a par. Yet, its role in the international monetary system still fall short of those of the UK at the end of the 19th century and the US under the Bretton Woods System. Frankly speaking, in the foreseeable future, either the EU or the euro is still teemed with hidden

Table 2.2 The percentage of major currencies in the international reserve (2000–2012) (Unit: %)

Item	2000	2002	2004	2006	2008	2010	2012
US dollar	71.1	67.1	65.9	65.5	64.1	62.1	62.2
Euro	18.3	23.8	24.8	25.1	26.4	26.5	23.7
Pound sterling	2.8	2.8	3.4	4.4	4	4.2	3.9
Japanese yen	6.1	4.4	3.8	3.1	3.1	3.3	3.9

Source Annual Statistics by BIS

contractions that may threaten its very existence and is full of various uncertainties; in particular, the trend of unification will not remain unchanged and irreversible. On the one hand, the "Sympathetic State" economic model touted by the Europeans has entailed enormous social costs and become the "Eurosclerosis", showing symptoms of high social welfare, high unemployment, and lack of innovation that people are familiar with. "Eurosclerosis" has made Europe's economic growth rate long lagged behind the US and world's average, and subjected the European countries to burden of debts. Unlike the UK and the US in their heyday, today's Europe is declining before ascending to the status of hegemony. Another factor is that the EU is not a unified country with a central government like the US. It is still hard for the EU to make breakthroughs along the path of unification in a number of areas including fiscal policy and taxation, administration, foreign policy, immigration and defense, etc. Admittedly, member states at different phases of economic development and with different historical and cultural background have salient disagreements and contradictions. In this sovereign debt crisis that swept across Europe, the disputes about the obligations and conflicts of interest between the European "central states" like Germany and France, and the "periphery states" like Greece and Ireland has vividly mirrored the inconsonance and system deficiencies in the EU. Such situation would remind us of the advice by made by Kennedy (1990) twenty years ago on the Europe's dim prospect: "If the European Community can really act together, it may well improve its position in the world, both militarily and economically. If it does not—which, given human nature, is the more plausible outcome—its relative decline seems destined to continue".[5]

Compared with the euro, internationalization of the currencies of other countries seems even slower. The pound sterling, Swiss franc, Canadian dollar, Australian dollar, Swedish kroner, New Zealand yuan, Hong Kong dollar and RMB yuan have all steadily improved their status in the international monetary reserve system, nonetheless, as the scale of economy of most of them are too small and their economies are tied to the US and (or) the Europe in various ways, it is even more difficult for the currencies of these countries (regions) to exert much impact on the US dollar.

Notable, also, is that since the 1990s, the reform of the international monetary system has gained new incentives. The new incentives come from the real economy. On the one hand, the old center country like the US and emerging "center countries" such as Europe and Japan have witnessed the slowing down of their economic growth rates; on the other hand, the economies of the emerging markets represented mainly by Asian countries are experiencing rapid economic growth. The transformation in the relative strength of their economies has again drawn the attention of the international society to the "center-periphery" system. Different from the past model, the current "center-periphery" system is dominated by the US, who is the major deficit state; and on the list of the periphery countries, Europe and Japan have been replaced by emerging economies in Asia, including China. It is

[5]Translator's note: Kennedy (1987).

true that the path to resurrection taken by the emerging economies in Asia since the 1990s is quite similar to that was taken by Europe and Japan after the WWII, and similarly it has also led to impressive economic achievements: In nearly two decades, the countries accumulated enormous amounts of trade surplus and foreign reserves, and realized high-speed economic growth. In a similar vein to what had happened in the 1950s, imbalance in international payment, especially the imbalance between China and the US that has always being in the spotlight, had been voluntary policy alternatives by the center and periphery countries out of the consideration of national interests. Likewise, this system is now also under the severe impact, as is seen in the global financial crisis. The US and other countries have been increasingly aware that it is no longer worthwhile to maintain this international monetary system in which the dollar is the primary reserve currency and all countries adopt the floating exchange rates mechanism, and adjust the imbalances of international payments individually in their own ways. It is in this sense that a new round reform of the global monetary and financial system has started.

2.6 Never Forget John Keynes

Talking about further reforming the international monetary system, people have to mention Keynes again. The Bretton Woods System was instituted by rejecting the plan by Keynes, and it was more caused by the power shift between the declining power—the UK, and the rising hegemon—the US, than being a choice based on merits. As Professor Triffin has pointed out, the failure of Keynes' plan was due to political factors, and "in narrower economic view, Keynes was absolutely correct". Triffin (1997) more importantly, as time passes and more problems resulting from the dollar hegemony have been exposed, to reform the international monetary system is becoming an imminent task, more and more people have again turned Keynes' plan and even started to look at it carefully. The reason is, the crux of the plan is to decline the direct fixation of the international reserve currency to the sovereign currency of one single country, and at the same time to avoid the asymmetrical adjustment cost between the creditor (surplus country) and debtor (deficit country). It pinpoints the major deficiencies of the current international monetary system, the problems whose answer have been much sought by the people.

In fact, the ideas embodied in the Keynesian plan appeared as early as the time during the making of the Versailles Treaty after WWI. Payment of war reparation was the top agenda of the Paris Convention, and was the major subject discussed by the famous thesis of Keynes: the *Economic Consequences of the Peace*. With detailed and accurate statistics, Keynes argued that Germany was able to pay about $10 billion of war indemnity; but in 1921, the allied reparations committee set the amount of indemnity as high as $33 billion, twice as much as the national income of Germany at the time. Keynes held that such an astronomical amount was unrealistic and as Germany did not have much means of payment, it could only pay the debt by expanding export. Consequently, Germany was overburdened, and moreover, since it was unable to fulfill its obligations of paying war reparations, the economic interests of Britain and France were also harmed. Keynes' presumption was proved by the reality: by the end of 1922, due to the insolvency of Germany, the war reparations had been deferred indefinitely. Under tremendous pressure of the war reparations, the deutschmark was depreciated, which brought about hyperinflation that plunged the Germans into deep agony and sufferings. Keynes in his paper remarked: "I dare to predict that such situation will not be pacified".[6] Unfortunately, it turned out that his prediction became reality, and the unwise reparations arrangement had directly led to Hitler's coming to power and sowed the seeds of disaster of the Second World War.

The painful lessons taught by the grave consequences of the Treaty of Versailles, and the wisdom of Keynes in his analysis of the economic consequences of the Treaty provided guidance for people's dealing with war reparations afterwards. At the end of the WWII, the US did not demand war reparations from Germany; on the contrary, it single-handedly made efforts to establish an international organization (the monetary fund, etc.) to provide loans for defeated countries, and immediately started to implement the Marshall Plan to help the latter to achieve economic recovery. Besides the international political concerns, the plan is also contrived out of the economic considerations. After the end of the war, the great productivity formed in the wartime has to be sustained by tremendous demand. So, if depleted the losers of the war and eventually bankrupt those countries, the domestic production of the US would shrink due to the inadequacy in consumption, which would lead to the slump of economic growth rate and in turn long-term recession; if, the defeated countries would be exempted from war indemnities and instead be provided with loans, European countries would afford the products that they needed and formed the market for the tremendous amount of products exported from the US. By doing so, the US would become the first beneficiary since it would be able to achieve long-term high speed economic growth when it was possible to maintain the balance between supply and demand within the country thanks to the huge and sustainable demand from foreign markets; and moreover, the US would be the only country to enjoy the mint profit for a long time. The indirect benefit lies in the fact that as the primary creditor in Europe and the world on the whole, countries around the world had to be submissive to the US and follow its lead. What happened during the decades after the WWII has proven that the advantages reaped by the US could in no way be overestimated.

The wisdom of Keynes not only provided guidance in solving the issue of settlements, but also the basic ways of thinking in adjusting the asymmetry between the debtors and creditors. These elements constituted the major part of the Keynesian Plan proposed when the Bretton Woods System was initiated.

[6]Maynard J. Keynes (2008).

In his very first proposal, Keynes suggested that a global bank (International Clearance Union, ICU) be set up and it would issue its own currency (Bancor), whose value is calculated based on the thirty representative commodities (including gold) and exchanged with other national currencies at fixed rate. All trade accounts should be noted in Bancor, and each country should open a Bancor account with the ICU (the account should be in balance, i.e., with minimum and even zero balance), and at the same has a certain amount of overdraft quota. When a country has large trade deficit (which exceeds half of its overdraft quota in Bancor), it has to pay interests on the account, adjust its national economy, exercise capital control and devaluate its national currency. Conversely, countries that have large trade surplus also need to pay expense of the similar nature, and would be asked to lift restrictions on foreign investment and appreciate the exchange rate of their national currencies. The Keynesian Plan was aimed at exerting concurrent pressure on the surplus and deficit nations to compel them to "clear" the balance on the accounts. This mechanism would be able to facilitate smooth and symmetrical adjustment among the countries and therefore best avoid the global imbalance.

Besides, the Plan would not ask the US or any other country to propose the currency they would like to choose. The essence of the Plan, therefore, was to enable the ICU to use the amount of surplus on the account of the surplus country if that country did not intend to make purchase of commodities or services or overseas investment. The right to use the surplus, though, would be temporary, but so long as a country did not designate the surplus to be used in any way, the ICU would be entitled to use it. As Bancor was not a national currency, the system would not grant any country the privilege to coin the currency. Neither would it allow the global currency to become the hostage of the domestic right of priority that belongs to any country.

2.7 The Ubiquity of the Triffin Dilemma

More than half a century has passed since Professor Triffin made his observation on the dilemma of the "clearance ability" of and "confidence" in the Bretton Woods System, and it has been over four decades since the collapse of the System, nonetheless, we are still living in the world defined by the Triffin Dilemma as the international monetary system is still dominated by the credit currency of some sovereign states (like the US). The only difference, however, is that the dilemma is manifested in a different form. Under the Bretton Woods System, the dilemma had been embodied in the inadequate support to the US dollar by gold (the contradiction between the over issuance of the dollar and the minimum increase of gold currency). Today, the dilemma was shown in inadequacy of fiscal capability to boost the issuance of the dollar securities. In fact, other countries and regions, among them the Euro Zone, that issue reserve currencies, are now faced with the same problem.

The root cause of this problem is, despite of the massive wealth accumulated with the economic growth of a group of countries (mainly the emerging economies and OPEC countries that have trade surplus), those countries are extremely lacking in means of investment with matching scale and both safe and fluid due to the underdevelopment of their domestic financial markets. Globally as far as financial markets are concerned, it seems that only the treasure bonds of the US is able to perform the function of currency pool as it takes the lead in terms of scale of economy, development level, the depth and width of the financial market. Although Europe and Japan may also provide channels of investment for surplus countries (such as the market for government bonds in these countries), they are a far cry from the US in terms of the scale and openness of the market. As the result, the US treasury bonds remains the primary investment alternative of the capital reserves of the surplus countries. Meanwhile and obviously, the value of this type of asset is guaranteed by the income capability (i.e., clearance capability), the stability of the internal and external values of the dollar, and even the potentials of economic growth of the US, and the cumulative effects of such investment will in the long run make the US being bogged down in the quagmire of debts. Research has shown that if a nation's debt goes too high (for example, the debt exceeds 90% of the GDP), it will not only endanger the government's solvency capacity, but also drag slow the economic growth of the country, a fact that is unavoidable when the global liquidity (or reserve capital) depends on a certain type of sovereign currency (Reinhart and Rogoff 2010). It should be acknowledged that the current major countries issuing reserve currencies are not able to sustain the value of their treasury bonds and thus have difficulty to maintain the stability of the value of their currencies. Apparently, the problem described here is merely a new version of the "Triffin Dilemma".

Realty shows that worries arising from the above-mentioned problem are not unjustified. In the recent years, the reserve assets of emerging economies and resource export-oriented countries have not only increased rapidly, but also become increasingly dependent on the US treasury bonds.[7] Such tendencies became even more noticeable against the backdrop of the rampage of the global financial crisis between 2008 and 2009, when there was a sharp surge in demand for hedge-type assets, and even after the Standard & Poor's down-graded the credit-rating of the US treasuries. In fact, whether the acknowledged high-quality bonds of the private sectors (like AAA bonds of enterprises), or sovereign bonds of some European countries are conspicuously weaker than the US treasuries in resisting the systematic risk of the market, and its "safety" will also be severely ruined as the crisis persisted. In the context of the worldwide, rapid shrinkage of the scale of safe assets, the US treasuries was once more sought after by countries across the globe,

[7]Farhi et al. (2011) have pointed out that investors' faith in the US treasuries has given the latter the liquidity-premiums enjoyed by the bonds of enterprises (AAA) with the same credit-rating, which means that the US government will pay relatively low interests for the bonds.

and its status as the primary type of international reserve assets was further solidified[8].

China's experience is another example. In the two years between 2008 and 2009, China had doubled its holdings of US treasury bonds, thus replacing Japan as the biggest foreign investor in US's national debt. By the end of September, 2011, of its total $3201.7 billion foreign reserve, nearly 36%, or $1148.3 billion dollars are US treasury bonds, which accounts for ¼ of the national debt of the US held by foreign countries. Actually, internal and external factors including the underdevelopment of China's domestic financial market, low level of internationalization of the RMB and the lack of international investment substitution all contributed to the uniformity of the composite of asset.

At the same time, the overall debt scale of the US government keeps on burgeoning, and its proportion to the country's GDP had climbed from 51% in 1988 to almost 100% in 2010. Since domestic savings from non-public sectors have seen considerable growth, the US became increasingly relied on selling its national debts by issuing treasury bonds and selling them to foreign investors. In terms of absolute volume, between 2002 and 2010, US debts held by foreign investors had increased nearly three times and in the same period, with the biggest increase taking place during the Subprime Mortgage Crisis since 2007 (see Chart 2.1). In relative terms, in 1988, US debts held by foreign investors accounted for only 13% of the national debts, whereas by 2011, the percentage rose to over 30%. Such situation truly posed unprecedented challenges to the sustainability of the US financial revenue and expenditure, as well the prospective economic growth.

It is worth noting that Triffin himself not only revealed the inherent inadequacies of the Bretton Woods System, but also, on the basis of the Keynesian Plan, put forward his own proposal to reform the international monetary system by transforming the IMF into the global central bank in the real sense (Triffin 1997). He perceived that contributions from the member states would be turned into savings of the nature of reserve capital, which would be the foundation of the loan reserves of the IMF, and further "replace the national currencies in the currency reserves of the member states". Meanwhile, to avoid global inflation resulting from lending wantonly, Triffin proposed that the right to loans within the IMF should be decided by the majority vote of the members. These proposals, although not being adopted for political reasons, have provided the theoretical basis for the later creation of the Special Drawing Rights (SDRs) and the so-called "collective currency" like the euro, etc.

[8]See "The Decline of Safe Assets," published online by the British *Financial Times* at: http://ftalphaville.ft.com/blog/2011/12/05/778301/the-decline-of-safe-assets/.

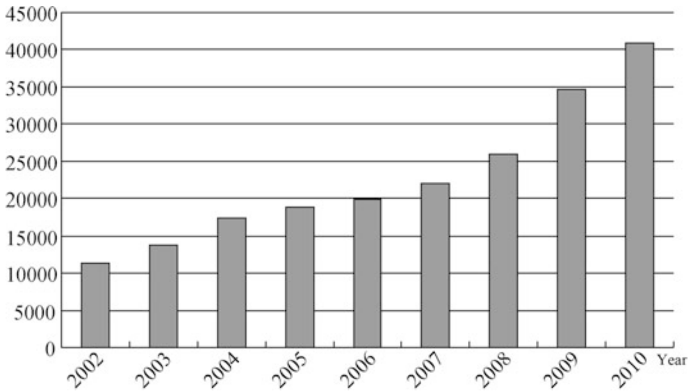

Chart 2.1 US debts held by foreign countries (Unit: billion US$) Year. *Note* the combined sum of long-term securities and short-term securities. *Source* The US Treasury Department

2.8 Break Free from the Myth of Single Currency

As people are counting the deficiencies of the dollar hegemon and talking about to reform the international monetary system, the first thing comes to their minds is to look for another single global currency to replace the dollar. As a matter of fact, among the different reform plans, to create a global, supra-sovereign currency has always been an alternative. Zhou Xiaochuan, the governor of the People's Bank of China remarked in 2009 that the financial crisis was the inevitable outcome of the deficiencies of the international monetary system, and only by introducing a supra-sovereign currency with stable denomination value and issued rationally in adjustable aggregate volume will be able to overcome "the inherent risks of the sovereign credit currency and make it possible to adjust the fluidity across the world".

On unifying the currency, Milton Friedman once incisively observed: "Currency union will persist only with deepened economic and political union". He had intended to say that in an open economy, the free movement of goods, labor and capital has to be guaranteed by a self-disciplined central financial institution and a powerful central bank, and the two institutions, serving as the two pillars to strengthen the currency, should be inseparable and none of them should be missing. If we look at the Euro Zone, as there is only a common central bank and no unified fiscal and monetary institution and not to mention a unified government, the euro as a supra-national currency is destined to be fundamentally inadequate.

What happened with the euro exerts negative impact on the effort to seek a new type of supra-sovereign international currency. In one word, in the current international political and economic situation, reform of the international monetary system is faced with difficulties in at least two aspects: firstly, the current multipolar or even conflicting international political system is not conducive to forging concerted efforts to propel the adoption of a supra-sovereign global currency.

In other words, the current international political, economic environment does not allow for the historical breaking through at the time when the euro was conceived. Secondly, the degree of global economic integration is still a far cry from that at the planning stage of the Euro Zone. When the scale and depth of political and economic integration still fall short of those at the time when the Euro Zone was initiated, it is obviously impossible to establish a unified, global monetary union (Lane 2006).[9]

For any currency to circulate internationally, it has to be backed firmly by credit. For metal currencies, the credit is decided by and guaranteed by the value of the metals; for credit currencies, the value of the currency is decided by the credit of the entity that issues it. Nowadays the dollar and euro are shunned by people mainly due to the undesirable fiscal situation in the US and the Euro Zone, the issuers that determine the value of the currencies—the US and the Euro Zone. Similarly, it is now hard to materialize the conception of a supra-sovereign currency because the credit basis is still missing until the necessary conditions are met by setting up a supranational, "universal" government with the monetary union and independent central bank system to go with it. It is notable, though, that there is still a long way to go before institutions like a supranational government, monetary union and an independent central bank, etc. are established.

Coming all the way to this part of the book, one cannot but think of the vicissitudes through which "Esperanto" has gone. It is well-known that as a "world language" with a history of more than a hundred years, Esperanto is easy to learn, but since it is not indigenously formed and therefore sponsored by any specific national or ethnic culture, few people are using it now. In a similar vein, being "supra-sovereign" is what makes the "so-called" supra-sovereign currency either a success or failure. If no individual country or country bloc tend to actively promote the idea, and countries lack the sincerity to cooperate with each other out of their national interest, what had happened to Esperanto will most probably be repeated in the case of the supra-sovereign currency.

If, as we may assume with certainty, that within the period of several generations, it would be close to impossible to find a single international currency go substitute the dollar, then talking about reforming the international monetary system we should decisively reject the plan of adopting a singular currency and turn to focus on the establishing and improvement of the international monetary system built on a realistic scenario of diversifying the reserve currencies. A report by the World Bank in 2011 projected boldly that by 2025, the six emerging economies will contribute over half of the world's economic growth, thus facilitating the creation of a multi-polar international currency reserve system whereby three major reserve currencies, i.e. the US dollar, euro and RMB in place of the old monetary system dominated by the dollar. Market competition among the major reserve currencies would put restraints on the issuing countries and meanwhile, currencies issuance will have to be supervised, managed and coordinated by international

[9]Lane and Philip (2006).

organizations on a new platform of governance. Former Chinese president Hu Jintao talked about reforming the international monetary system as early as at the G20 Summit in London: "The IMF should enhance and improve its oversight on the macroeconomic policies of various economies, major reserve currency issuing economies in particular, with a special focus on their currency issuing policies; … improve the international monetary system and regulation of reserve currency issuing mechanism, stabilize exchange rates of major reserve currencies, diversify and rationalize the international monetary system". Though some major stakeholders and the once pace-setters of the summit chose to "overlook" this proposal and refuse to put it in the Doha Declaration, such observation has been proved to be insightful and perspicacious by the course of events afterwards.

2.9 Explore New Paths While Salvaging the Crisis

Like blood to life, monetary and financial system is inseparable from running of the economy and therefore revamping of the system is usually carried out gradually and progressively. For any country, the monetary system has always been passed down on as deeply embedded legacy of the past sans earthshaking event takes places like regime change; even in the case of currency reform, proper arrangements will be made to smooth the transition from old to new systems, and even more so in the case of international monetary reform. Even for the Bretton Woods System which looked like a true innovation, the fundamental elements constituting the system had been in place and operation unnoticeably in the half century prior to its establishment; the official introduction of the System was merely the reformation of a long-existing reality making public by multilateral agreements.

Being well aware of the trajectory of the evolution of the financial and monetary system, people need to reject the way of thinking that tends to start everything from scratch at any moment, and set about analyzing the possibilities of solving the current crisis. We need to look at, with insights the measures taken in addressing a number of crises that differ in their manifestation, impacts and duration, and differentiate the policies that failed in practice from the successful ones, so that we will be able to tell what should be discarded and that what be adopted as they have been proved to be feasible and viable. Only after repeated and meticulous analyses, will we be able to identify the crucial factors that suggest patterns of commonality and general tendencies, and explore feasible plans of reform going in the direction pointed out by past experiences.

As the world enters the 21st century, it has witnessed two major global financial crises that have sweeping impact: the first crisis is the "9.11" incident that happened in 2002, and the other one is the ongoing crisis that began in March, 2001. As both broke out in the US, which is also the epicenter of the crises, it will be illuminating if we take a look at the measures taken by the monetary authorities of the US to tackle the challenges.

2.10 Dealing with the “9.11” Incident: The System of Payment and Clearance Is the Key

On the day of “9.11”, Alan Greenspan, the then Chairman of the US Federal Reserve was flying back to Washington DC on a Swissair flight. In his memoir, Greenspan recalled his thoughts at the moment: “The possible economic crises were all too evident. The worst, which I thought highly unlikely, would be a collapse of the financial system. The Federal Reserve is in charge of the electronic payment systems that transfer more than $4 trillion a day in money and securities between banks all over the country and much of the rest of the world. We’d always thought that if you wanted to cripple the U.S. economy, you’d take out the payment systems. Banks would be forced to fall back on inefficient physical transfers of money. Businesses would resort to barter and IOUs; the level of economic activity across the country could drop like a rock. During the cold war, as a precaution against nuclear attack, the Federal Reserve had built a larger number of redundancies into the communication and computer facilities on which the money system relies. We have all sorts of safeguards so that, for example, the data of one Federal Reserve Bank are backed up at another Federal Reserve Bank hundreds of miles away or in some remote location. In the event of a nuclear attack, we’d be back up and running in all nonirradiated areas very quickly. This system was the one Roger Ferguson, the vice chairman of the Fed, would be taking the necessary steps to keep the world dollar system flowing”.[10]

(Introduction, *Alan Greenspan’s Memoir: The Age of Turbulence: Adventures in a New World*, 2007).

Greenspan, out of his long time experience working as the governor of the world’s largest central bank, emphasizes that it is extremely importance of the safe running of the system of payment, clearing and settlement to maintain the normal and operation of the world monetary system and even the global economic system. In response to the crisis, Greenspan’s ranking of priority not only echoed the insights of Keynes in his analysis of the Treaty of Versailles and wisdom on his part while helping to design the post WWII international monetary system, but also put down a footnote by such an international monetary event on the financial functional theory that started to gain popularity in the 1980s.[11]

The system of payment, clearing and settlement refers to the system composed of a number of elements including rules of monetary transfer, institutions providing

[10]Translator’s Note: Greenspan (2007).

[11]Merton has defined six essential functions of finance: (1) Clearing and settling payments; (2) Pooling resources and subdividing shares; (3) Transferring resources across time and space; (4) Managing risk; (5) Providing information; (6) Providing incentive mechanism; however, most of these functions can be removed or replaced, and the only one that is irreplaceable is the function of clearing and settling payments, which is, in Merton’s view, constitutes the most essential and irreplaceable function of financial system. Please see *Finance*, published by the People’s University Press, 2004.

services in payment, clearing and settlement, methods that ensure the delivery of order of payment and money settlements, and it is the basic vehicle that carrying out trade in commodities and labor, clearing and settling debs and transferring money. If finance is the blood for the economic body, the system of payment, clearing and settlement is the "plumbing" through which the blood is transmitted, and without saying is of vital importance to economy.

In the economic system, if a party does not have adequate fund to settle the debt from another party within the system and in due time as expected (although at some point after the payment should be due, the party might have adequate fund to pay the debt within the system), there will the risk of liquidity. Risk of liquidity can be regarded as the most crucial risk in the system of payment, clearing and settlement. Risk of liquidity is contagious and lead to default and credit risk; and if the liquidity and credit risk of some players spread in the system, it will result in systematic risk. Liquidity risk will lead to the failure of the system of payment, clearing and settlement, which will in turn directly impact the supply of liquidity. In short, to keep a close watch on and ensure the normal functioning of the system of payment and settlement is just as important as to pay close attention to containment of liquidity risk.

2.11 Dealing with the Current Financial Crisis: Currency Swap Gaining Popularity

If, to say that during the "9.11" Incident period, Greenspan's major concern is whether the cornerstone of the financial infrastructure, the system of payment and settlement would be destroyed, after the breakout of the current financial crisis, what worried Bernanke was the catastrophic consequence under the impact of liquidity problems. Whereas Greenspan generated the standby system, Bernanke turned to the Currency Swap mechanism among central banks.

Currency Swap refers to transaction of trading the principals of two currencies and paying the interest generated from the process within a fixed period of time of according to the agreement reached between two contracting trading parties. As a genre of financial derivative trade created in the financial market in the 1980s, Currency Swap was firstly employed to deal with exchange rate fluctuations, and later is widely applied to a variety of financial trade. Currency Sway can be regarded as a kind of portfolio trading composite of a spot exchange transaction and a reserve, forward exchange transaction. Since the exchange rate of the forward exchange transaction is fixed, both parties of the transaction are no longer subject to the risk brought by changes in the exchange rate. Currency Swap enables the trading entities to use the comparative advantage in different currency markets and fulfill the business goals of reducing financing cost, containing exchange risks and optimizing the structure of assets and liabilities.

At its birth, currency swap has demonstrated its universal applicability. Monetary authorities soon came to realize that like repurchase, currency sway may be used extensively as a tool for publicizing market operation and to adjust and manipulate monetary supply, interest and exchange rate with different maturities. Besides, since it involves a variety of different currencies, currency swap is more suitable to help realize the multitude of goals of the central bank in globalization. In this way, currency sway is endowed with the regulatory role of monetary policy. In the present crisis, the Federal Reserve and the European Central Bank have put in use a large number of new policy tools to push ahead Quantity Easing (QE); most of those measures contain the elements of currency swap.

What is more, through currency swap, central banks are able to instill liquidity denominated in the local currencies of other countries directly into the market. Such practice will in effect allow the member of a currency swap agreement to obtain support from the overall system to their local base currency, or liquidity support, thus improving the liquidity of the global financial system and greatly strengthening the interfering capacity of the central banks.

The US dollar can be used as an example to illustrate the operation of currency swap among central banks and the exchange of national interest involved in the process. Once the central bank of a foreign country begins to implement the swap agreement with the Federal Reserve, it will sell a certain amount of its national currency to the latter at the market exchange rate in exchange for dollar asset. At the same time, the Federal Reserve will deposit the local currency on a special account. Correspondingly, the dollar asset is deposited in a special account opened by the central bank with the Federal Reserve in New York. An agreement will be signed between the Federal Reserve and the central bank regarding the second transaction, and stipulates that the foreign central bank will buy back the same amount of the dollar asset at the same exchange rate on a fixed date in future. In the final analysis the second transaction offsets the first one. When the second transaction is concluded, the central bank will pay market rate interest to the Federal Reserve. One can see that since the exchange rate is fixed in the swap, the real outcome of the transaction is that the Federal Reserve has issued a loan to the other swapper. Once the foreign central bank loans the dollar money obtained from the swap agreement to organizations and agencies outside its jurisdiction, the money will be transferred from the account opened by the central bank with the Federal Reserve at New York to the borrowing bank so that the latter will be able to pay in dollar. The foreign central bank should still fulfill its obligation and pay back the debts to the Federal Reserve. The Federal Reserve does not undertake joint liability, and the foreign central bank will be responsible for the credit risk of the loan.

The foreign currency acquired by the Federal Reserve becomes asset on its balance sheet. Since the swap is done at one fixed exchange rate, the asset's value in dollar will not be affected by the fluctuation of the market exchange rate. The asset in dollar deposited by the foreign central bank with the Federal Reserve in New York is liability on the balance sheet of the Federal Reserve.

2.12 International Monetary System to Be Transformed by Central Banks' Currency Swap

Experience in fighting against the financial crisis over the years has revealed that currency swap not only plays the irreplaceable role in coordinating the actions taken by monetary authorities of various countries, but also plays a unique role in reforming the international monetary system.

The global financial crisis that broke out in the first half of the year 2007 put tremendous stress on the liquidity at the international market. While the unprecedented, extraordinary interfering measures taken by central banks of countries did not yield noticeable results, the Federal Reserve was the first to initiate the currency swap. In November, 2007, the Federal Open Market Commission announced that it had already reached the currency swap agreement with the European Central Bank and the Swiss National Bank, and made the promise of supplying dollar liquidity to overseas dollar market. The agreement was afterwards applied to the central banks of some other countries when the commission announced that it would conduct currency swap with the following central banks: the Australia Reserve Bank, Brazil Central Bank, Bank of Canada, Danish National Bank, Bank of England, European Central Bank, Bank of Japan, Bank of Korea, Central Bank of Mexico, New Zealand Reserve Bank, Norges Bank, Monetary Authority of Singapore, Sweden Central Bank, and Swiss National Bank. The practices tells that the financial monetary systems of the world's major countries have been more closely connected with currency swap spread rapidly among central banks, a dynamic force that further solidify the status of the US dollar by helping it to expand much beyond its traditional dominion.

Honestly speaking, before April the 6th, 2009, the primary purpose of all currency swaps among central banks had been to satisfy the world's financial institutions' demand for US dollar. It is for this reason that major provisions of currency swap agreements have all stated that the Federal Reserve would provide the other central banks with liquidity in large amounts of dollar. The reality is that, under the international monetary system, the US dollar had maintained predominance and it could not be replaced by any other currencies (Zhihao Hu 2011).[12]

Nevertheless, with the deepening of the crisis and the inherent contradictions of international monetary system dominated by dollar were seen more clearly, currency swap no long has to repeat the old story of the dollar taking the opportunity of the "dollar shortage panic" to take over its once lost territories in the monetary system. On April 6th, 2009, the Federal Reserve announced a new currency swap agreement jointly with the central banks of the UK, EU, Japan and Switzerland. The agreement stated that the four central banks would, respectively, provide the Federal Reserve with liquidity in as high as €30 billion, €80 billion, 10,000 billion

[12]Hu Zhihao: "Salvage Europe's Agreement on the Currency Swap with Dollar", *Analytical Reports on Statistics—Current Review*, No.20111202, published by the Chinese Academy of Social Sciences.

Japanese yen, and 40 billion Swiss francs. The agreement marked that starting from that moment, the Federal Reserve was no longer the only central bank that can instill the US dollar into the financial systems of other countries through the local central banks, the central banks of the above-mentioned four countries could also, vice versa, instill pound sterling, euro, Japanese yen and Swiss franc into the financial system of the US through the Federal Reserve. The agreement has changed the old practice of one-way currency transfer in pursuit of dollar, and for the first time in history made the monetary transaction live up to its name. Moreover, it has integrated the money supply mechanism of the major developed economies from within.

Besides, while currency swap centered on the dollar has been carried out between the Federal Reserve and other central banks, bilateral swap between central banks also rules supreme. The most ostensible feature of such swaps is that in the transactions of goods and money among the signature parties, with dollar going out of view, local currencies become the leading player; meanwhile interest rates are determined on real-term trade between the parties. No doubt this pattern of multi-currency reserve will, as the trend moves along, be institutionalized in the end.

The mechanism of currency swap among central banks proves to be the fundamental approach to successfully resolve the “Triffin Dilemma”, and it also curb the demand for reserve currencies. Currency swap like this has in fact guaranteed the monetary authorities of the signature countries the access to liquidity in crisis or other emergencies, therefore those authorizes are not as eager to accumulate reserve currencies, which lowers the demand. On the one hand, it has greatly cut the “rent” generated from the coinage tax obtained by countries that issue the reserve currencies; on the other hand, it has tremendously reduced the opportunity cost of holding the reserve currencies, by enabling the countries that do not issue reserve currencies to let their local currencies to partially play the role of reserve currencies. The popularization of the currency swap network has restored the true function of the international monetary system of providing convenience for payment, clearing and settlement. As the result, globally, net costs of circulation will be markedly reduced while the level of well-being will be tremendously lifted.

Of course, bilateral currency swap has its shortcomings and the following are the two major ones: First, while the bilateral agreement creates mutual benefits based on reciprocity, it also has risks, in particular the risk of sovereign default by the debtor. Once such default occurs, even though the creditor holds the collateral (the local currency of the debtor), loss in the value of the collateral may still incur once the local currency of the debtor is depreciated. Also if the collateral is big in scale, it is actually hard to be cleared. Such risks prevent many emerging economies from signing the currency swap agreement with the central banks of the major countries. Secondly, although currency swap is bilateral, once in operation, its innate asymmetrical effect will be apparent. For example, in order to boost its financial system or fight against speculation attack, country B needs liquidity support from country A, but the central bank of country A merely writes the corresponding amount in local currency of country B onto its own balance sheet as the collateral. Obviously, currency swap agreement is, in essence, to boost the global liquidity by means of foreign currency reserve. Since all local currencies are not the reserve currency, the asymmetry will demand a certain amount of reimbursement (i.e., insurance premium) for the reserve currency when it fulfills the goal.

2.13 Central Bank Currency Swap with China at the Center

It should be noted that since the crisis broke out, currency swap between China and other economies has been growing rapidly. Between November, 2008 and the end of October, 2013, the People's Bank of China has signed bilateral currency swap agreements involving over 2000 billion RMB Yuan with monetary authorities of 29 economies including the Republic of Korea, the Hong Kong SAR of China, Malaysia, Belarus, Indonesia, Argentina, Iceland, Singapore, New Zealand, Uzbekistan, Mongolia, Kazakhstan, Thailand, Pakistan, the United Arab Emirates, Turkey, Australia, and Ukraine (see Table 2.3). Afterwards, some of the agreements were extended and the scale of some of the currency swap transactions was enlarged. The central banks' currency swap centering on the RMB has expanded day by day, ushering in the RMB onto the stage of international monetary system in steady steps; at the same time, as China's monetary supplies has been connected more closely with the supply mechanism of other counties, China's monetary policy is bound to meet fresh challenges.

2.14 A New Model of Global Governance Model Is Emerging?

On October 31st, 2013, the world's six major central banks—the Federal Reserve, the European Central Bank, the Swiss National Bank, the Bank of England, the Bank of Canada (previous), and the Bank of Japan issued the press release to announce that they had reached an agreement on long-term multilateral currency swap.[13]

The banks, in their press releases, remarked that they would convert the current, temporary bilateral liquidity swap agreements into long-term agreements, and the current agreements remain effective before further notice. The latest swap arrangement allows any signature bank to provide liquidity in the form of any of the other five major currencies within its jurisdiction, and the two central banks involved should assess the relevant market conditions to guarantee the swap under their own monetary environment.

[13]See the online press release by the six central banks on October 31st, 2013.

Table 2.3 Local currency swap agreements between China and some countries (Regions)

Contractual party	Date	Quota
Republic of Korea	December 12, 2008	180 billion RMB Yuan/38,000 billion Korea Won
Hong Kong Monetary Authority	January 20, 2009	200 billion RMB Yuan/227 billion Hong Kong Dollar
National Bank of Malaysia	February 8, 2009	80 billion RMB Yuan/40 billion Malaysia Ringgit
Belarus	March 11, 2009	20 billion RMB Yuan/8000 billion Belarus Ruble
Indonesia	March 24, 2009	100 billion RMB Yuan/175,000 billion Indonesia Rupiah
Argentina	April 2, 2009	70 billion RMB Yuan/38 billion Argentine Peso
Iceland	June 9, 2010	3.5 billion RMB Yuan/66 billion Iceland Krona
Singapore	July 23, 2010	150 billion RMB Yuan/30 billion Singapore Yuan
New Zealand	April 18, 2011	25 billion RMB Yuan/5 billion New Zealand Yuan
Uzbekistan	April 19, 2011	700 million RMB Yuan
Mongolia	May 6, 2011	5 billion RMB Yuan/1000 billion Tögrög
Kazakhstan	June 13, 2011	7 billion RMB Yuan
Thailand	December 12, 2011	70 billion RMB Yuan/320 billion Thai Baht
Pakistan	December 23, 2011	10 billion RMB Yuan/140 billion Rupee
United Arab Emirates	January 17, 2012	35 billion RMB Yuan/20 billion Emirati Dirham
Turkey	February, 21, 2012	10 billion RMB Yuan/3 billion Turkish Lira
Australia	March 22, 2012	200 billion RMB Yuan/30 billion Australian Dollar
Ukraine	June 26, 2012	15 billion RMB Yuan/19 billion Ukrainian Hryvnia
Brazil	March 26, 2013	190 billion RMB Yuan/60 billion Brazilian Real
The UK	June 22, 2013	200 billion RMB Yuan/20 billion Pound Sterling
Hungary	September 9, 2013	10 billion RMB Yuan/375 billion Hungarian Forint
Albania	September 12, 2013	2 billion RMB Yuan/35.8 billion Albanian Lek
European Central Bank	October 9, 2013	350 billion RMB Yuan/45 billion Euro

Source The People's Bank of China

The press release by the Federal Reserve stated that: the existing provincial agreements have helped to ease the tension caused by currency shortage in the financial market and mitigated the impact of the shortage on the economy; long-term agreement will continue to stabilize liquidity. At the same time, the European Central Bank pointed out that the decision made by the Board of the European Central Bank to conduct currency swap with the other five major banks will ensure that the former will continue, upon request, to supply euro to the other central banks, and when necessary, supply Japanese yen, pound sterling, Swiss franc and Canadian dollar to the other parties of the transaction while continuing to provide dollar liquidity. The European Central Bank also made it clear that in case of any changes in the market, it will adjust the frequency and maturity time of dollar liquidity. It is worth noting that prior to that, the European Central Bank had concluded with the central bank of China a currency swap agreement of US $57.1 billion for a term of three years.

In a press release posted on its official website, the central bank of Canada also said that the currency swap arrangements with other central banks including the Federal Reserve would expire on February 1st, 2014, but with the new agreement in place, the currency swap would be conducted on a much wider scope: the Bank of Canada would not only provide Canadian dollar to the other five central banks, but also supply the five local currencies of the later to financial institutions of Canada; besides, both the Bank of Canada and the Federal Reserve would lift the US$ 30 million quota on the mutually beneficial swap. The Bank of Canada believed that through the currency swap, the central banks concerned would be able to provide funds in special currencies denominated in the five major reserve currencies to banks, enterprises and other institutions within its jurisdiction. It would be wise to put the relevant policies in use before putting the monetary tools in practice. The Bank of Canada would keep a close watch on the development of the global financial market and after setting out the specifics necessary for implementing those tools, enact the currency swap immediately.

The Swiss National Bank indicated that it had decided to conduct cooperation in currency swap with the other five major banks. In line with the multilateral currency swap agreement, the Swiss National Bank would provide Swiss franc to the other major central banks as required and at the same time, would be allowed to provide the Swiss banking system with other currencies other than US dollar on the basis of the existing swap with the US dollar. Of course, in view of the current situation, it is not necessary yet for Switzerland to activate the operations related to currency swap.

The Bank of England pointed out that the current provisional currency swap arrangement had effectively relaxed the tension in the financial market, and relieved the pressure it passed on to real economy. The long-term swap among the major central banks would continue to play the role as the last precaution of the liquidity.

The Bank of Japan held the view that the existing provisional agreement that centered on the Federal Reserve had played a conducive role in helping alleviating the pressure on the financial market and offsetting its impact on the health of the economy. In order to improve the running of Japan's currency market and ensure the stability of the financial market, the Bank of Japan had decided to rectify the current swap agreement and broaden the scope of transaction to the other five central banks, turning the provisional arrangement to the long-term agreement. The long-term agreement just concluded would continue to play its role as the means of providing liquidity with caution. The Bank of Japan also proclaimed that the swap agreement, after the revision, would maintain the interest rate of the loans supplied by funds in dollar.

As the global financial crisis enters the seventh year, the six major central banks jointed upgraded the currency swap, a fact that illustrated the following four tendencies that of paramount importance:

First, since currency swap among the central banks is the last resort in dealing with enormous external impact, upgrading the arrangement of currency swap among the six major central banks portend but two possibilities: either the crisis might further deteriorate in the near future, therefore preemptive methods need to be adopted; or, the major central banks are ready to retreat by adopting "quantitative ease," and in order to face with the possible protracted, seismic impact of undefined nature, it would also be necessary to make preparatory plans.

Secondly, an exclusive, international, supply-demand network of currency reserve that connects the major developed economies with the Federal Reserve at the center has taken shape. The network in fact has integrated the currency supply mechanism of the developed economies from within. An especially noteworthy facto is that currency swap not only involves the movement of currencies among the swappers, but also the exchange rates of those currencies, thus further concerns high-level coordination of the macro-economic policies of the parties of the agreement. In other words, the three essential pillars of a full-fledged international monetary system, namely: selection of reserve currency, exchange rate arrangement and mechanism of international balance of payments, have all been clearly laid out in the network.

Thirdly, since 2011, a series of negotiations among major developed economies has begun one after another, including the negotiations on the Trans-Pacific Partnership (TPP), Transatlantic Trade and Investment Partnership (TTIP), Plurilateral Services Agreement (PSA) and the Strategic Partnership Agreement between the EU and Japan, etc., formulating a network linking the developed economies that transcends the real economy. Together with the aforementioned monetary network, these two virtual and real networks come to form the new, exclusive "Holly Alliance" participated only by the developed economies, and the emerging economies, including China, and the developing countries have again been marginalized.

Fourthly, from the view point of the global governance and as far as real economy and trade are concerned, the existing mechanism of governance, represented by the World Trade Organization would probably be ostracized with the Doha Round negotiation being prolonged infinitely and coming to an eventual end; and in its place the new super free-trade zones such as the TPP would thrive. As far as monetary and currency are concerned, the current institutions of the governance, represented by the IMF, will also be cold shouldered and the various reforms under discussion will at best be carried out equivocally with no substantial results; and eventually these institutions will be replaced by the synchronized and well-coordinated policies and actions taken by the central banks of the developed countries. In this way, the economic "Holly Alliance" built on a super free-trade zones plus a super reserve currency network of supply and demand will dominate the future trajectories of the development of the global governance.

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